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Agricultural.

NOTES BY THE WAY.

A Short Visit in Washtenaw County.

On Monday last we started for a visit to Saline, Washtenaw County, to see how the farmers of that section had prospered during the season about closing. We captured Mr. E. Hilber, just returned from the Detroit Exposition, and he hooked up one of his big Cleveland Bay mares and showed how she could pull a buggy with two persons in it over the road. We found quite a little excitement among owners of orchards over the big advance in apples mentioned in the Farmer two and three weeks ago. Some eastern buyers, one a firm from Lockport, N. Y., were in the market for all the good winter fruit they could get. At first they captured a number of orchards at \$1 per bushel, but now they are offering \$1.50 per bushel, a very good price indeed, and may pay as high as \$1.75 before the season is over. Some orchard owners have placed their stakes on that line, and will wait for buyers to come up to it. It is the first time in some years that apples have paid growers anything more than for the use of the land they grow upon, and the advance will help out the incomes of many farmers very materially this season. We have heard of cases where farmers had sold from 300 to 500 barrels at from \$1 to \$1.50 per bushel. The boom will encourage farmers to put their orchards into good shape another year. Washtenaw County will receive many thousands of dollars for her apple crop this season.

At the stock farm of Mr. A. A. Wood Mr. Hilber dropped us, and in a few minutes we were looking over the Merino sheep, Short-horn cattle and Poland-Chinas for which Hickory Grove has become famous. Mr. Wood has had a very busy season in the sheep business. Besides handling his own flock, in connection with Texas parties he has bought and shipped about 1,400 rams, Merinos, and has given the fine wool men a fair market for their surplus rams, while those held over will command much better prices from the local trade. These rams were better ones than generally shipped out, and were sold very quickly after arrival. By the way, Michigan rams are more generally sought after, and give better satisfaction than those from any other State. They average larger, and are grown under more natural conditions than others, and therefore stand up better when turned on the range to pasture themselves. This is the verdict of men who have been in the business for years and are in close business relations with the wool growers of the Southwest.

Mr. Wood has his flock in splendid shape. He has a party of about 40 buck lambs of his own raising which are as even and fine a lot as we ever saw in one flock. They are big fellows, with plenty of bone, and woolled to the toes. Although pastures were very bare, both they and the large flock of breeding ewes, over 100 in number, were looking fine. Mr. Wood is growing larger sheep than he did some years ago, and believes that size will hereafter be an important point in the Merino, although he is opposed to gaining in that direction at the expense of those points which have made the Merino valuable. He wants a Merino carcass and a Merino fleece first, and then all the size possible.

The herd of Poland-Chinas kept on this farm for some years, and now a fixture, came from such herds as those of G. W. Harrington, B. G. Buell, and C. W. Jones, and of well known families. The stock boar is Ajax 10455, bred by Mr. Harrington, sired by Magistrate 5489, dam Elegant 17312 by Billy Greer 3219. He is a very even, rangy hog, stands up well on his feet, plenty of bone to carry him around, and has proved a first-class stock animal. Four brood sows were in the pastures, three with litters, while the other has not yet come in. There were a number of the last litters in the fields,

and it would be hard to find a nicer lot. The sows are Style 40386, by Prince H. 12389, dam Stylis 6th 30290, by Royal Sambo 7839; Samboline 25488, by Royal Sambo 7839; dam Lady Corwin 3d 5738, by Tom Corwin 2d 2037; Black Pride 4th 10566, bred by B. G. Buell, Little Prairie Ronde, sired by Shilawasse 6055, dam Black Pride 3d 7646, by Oxford 4115; Black Pride 5th by Bob Jones 6839, dam Black Pride 4th as above. These sows have had unusually large litters, and have stocked up Mr. Wood's place rapidly. Some of the older litters are just in shape to send out, and are going off fast.

The Short-horn herd on this farm was only started a few years ago, but it has got to the front rapidly. The families represented are the Fennel Duchess or Fletcher, Payllis and Young Mary. The selections were carefully made, and Mr. Wood feels entirely satisfied with his investment. He is breeding to the Peri bull, Peri Duke 94199, owned by the association of farmers in the neighborhood, and bred by Mr. Lufferty, of Illinois. The first prize calf at the Detroit Exposition was bred from him and a Fennel Duchess heifer, Fantail 10th, and he is a straight, handsome calf which should go to the head of a good herd. A yearling of same breeding except that he is out of the dam of Fantail 10th, one of the best Short-horn cows, take her as a feeder, milker and breeder, that we have seen in the State, is a very fine animal indeed. This yearling bull is very similar in color and make up to the calf mentioned above. Both are for sale.

A short calf was made upon Mr. G. L. Hoyt, and he showed us some splendid Merinos. In fact we never saw a flock looking better. The three year old ram which sheared 32 lbs. 4 oz. at the Saline shearing in April, looks as if he would break these figures next year. He is a very big sheep, must weigh 150 lbs. or over in full fleece, heavy neck folds and well fixed around the hips and flank, smooth body, and a 2 1/2 inch staple of good quality. He has as much delicate wool in his fleece as a Blacktop and all the X wool would be surplus. That is the kind of a delicate sheep we prefer. "Qid" has some fine young rams and ewes, some sired by this ram, others by his sire, a son of old Sheldon (48). He has had good calf for rams this year, and had kept his flock in shape to meet what he felt assured was coming.

At C. C. Warner's we looked over his Short-horns. Here were two bull calves and a yearling from Peri Duke, two of them from the grand Flat Creek Young Mary cow purchased of Mr. Lufferty. The yearling bull is very similar to the Wood's yearling—the same straight top line, good rib and loin, stylish front and neat head. He is doing remarkably well, growing fast and filling out very evenly. Here is a bull as good as his breeding calf's for, and should make a first class stock animal. The young man, who handled him, has him perfectly tamed, quite a thing in a bull. The bull calf from the same cow will be like the yearling, Peri Duke seeming to get such calves out of all cows brought to him. Mr. Warner has also a fine heifer calf from another cow equally as good as the bulls.

We also stopped a moment to see our old friend Mr. Joseph Wood, and take a look at a bunch of crossbred Polands and Barks he was feeding. This makes one of the best hogs for practical purposes we know of—smooth, round carcasses, and vigorous hearty fellows.

A short calf was also made at Mr. Ira Wood's, who has charge of Peri Duke. This is a fine young bull and the quality of his stock is as good as the best. We never saw a more even lot of calves than he has got. Ira keeps him in nice shape. He never misses a feed if it is to be had, and capers around his big paddock like a young calf. The Association which brought him in did a fine thing for the neighborhood, and the good effects will be seen in the stock for a long time.

SHORTHORNS AT PUBLIC SALE.

On the 33d inst. will occur the sale of Short-horns from the herd of Mr. W. C. Wixom, of Wixom, Oakland Co., the catalogue of which has just been received. In the lot catalogue are representatives of the Hilps, Miss Wiley, Duchess of Sutherland, Aylesby Lady, Rosabella, Rose of Sharon, Young Payllis, Honfetta and Gwynne families—in all 21 head. The young animals are all sired by Mr. Wixom's bull Barrington Duke 7th 78567, now four years old, and bred by Mr. Geo. Hamilton, Lexington, Ky. He was sired by the 24 Duke of Kent 51119, now at the head of the Palmer & Bowman herd, Lally 3d by Barrington Duke 57622; grand dam Imp. Barrington Lally by 24 Duke of Rosedale (27792). In announcing this sale Mr. Wixom says:

"In making this announcement the question may arise: Why am I making a public sale? In the first place I raise them for sale; and further, my herd has increased beyond the capacity of my farm, and I take this mode of offering them to the public.

"There are no overfed animals, but all are in good breeding condition. All animals not already recorded will be recorded in the purchaser's name."

Wixom is easy of access by rail, the F. & P. M. Railway and the Air Line Division of the Grand Trunk having a junction there, while the Wixom farm is only a few rods from the depot. The sale will begin at 2 P. M., with Col. J. A. Mann presiding. Send for a catalogue and see if there is something in it you want.

THE WESTERN MICHIGAN FAIR.

The eleventh annual fair of the Western Michigan Agricultural and Industrial Society, was, in point of exhibit, far in advance of any before held by this Society. There have been some changes made in order to give exhibitors more space, and yet it was apparent that still more radical changes would be necessary in the near future. Art Hall, with its annex or art gallery, was filled completely, and the quality of goods and the manner of displaying them showed plainly that the business men of Grand Rapids are fully abreast of the times. Then Pomological Hall, with its long rows of tables laden with such fruit as is shown at this fair, would astonish any granger outside the State of Michigan. The display of peaches, pears and apples was exceptionally fine, as was also the large variety of newer grapes. Carriage Hall was transformed into an Agricultural Hall to give additional space required in this department. In the last mentioned hall was the fine display of grain grown and exhibited by D. Woodman, of Paw Paw. In the corner was a crowned figure dressed in garments made of corn husks, ornamented with strings of kernels of corn, and in his hand he held an ear of corn, while on his crown were the words "Korn is King." By the side of the king stood the female figure "Ceres," with her full dress of different kinds of grain, and in her hand she held the ancient sickle and grasped a handful of grain. Mr. Woodman deserves much credit for showing what can be done by a single farmer. In the same hall was a fine display of grains, seeds and vegetables, some honey and bee exhibits, and some dairy exhibits. One corner was given to entomological specimens from the Agricultural College at Lansing that furnished material for an endless variety of questions to be answered by the student in charge.

The show of poultry was large and maintains the reputation of this part of the State for a great variety of poultry of fine quality. The show in the pet stock department was not as large as we might expect in a town that claims to soon boast of one hundred thousand population. Machinery and farm implements were shown in great variety, some of the dealers in Grand Rapids making fine displays.

The greatest increase in exhibits was seen in the live stock department, the number of animals in nearly every department greatly exceeding the number shown last year. Fine horses, as usual at this fair, were out in great numbers, from the trotting nag and gentleman's driving horse to the spirited thoroughbred, standard bred, and otherwise bred. Among the exhibitors of Clydesdales we found J. W. & W. G. Crosby, Greenville; James M. Turner, Lansing; A. B. Bricker, Caledonia; B. Crevelling, Alpine; Babcock Brothers, Ionia; and Frank Gillous, Corlinton. Among the exhibitors of Percherons were Geo. Merritt, Byron Center; D. A. Blodgett, Grand Rapids; C. Dunham, J. P. Slight, Bath; T. Cross, Bangor; and Parsons & Baldwin, Watervliet.

The number and quality of cattle shown would have done credit to any State fair, and some were bold enough to assert that all classes considered, the quality was up to it. Short-horns did not lead the other breeds in numbers, but every exhibitor could feel assured that he was in good company. The Short-horn herd presented were drafts from the herds of Wm. Steele, Ionia; James Turner, Lansing; A. P. Cook Co., Brooklyn; John Lessiter, Cole; B. F. Batchelor, Oshtemo; and J. C. Sharp, Jackson. The judging of Short-horns was done by L. H. Butterfield, of Lapeer. The classes were disposed of satisfactorily until the cow class was reached and a string of nine magnificent animals was placed across the ring. A little speculation and wild prediction was hazarded by the bystanders, and when the first prize was given to J. C. Sharp's Peri cow and the second to William Steele's Peri, there was some criticism indulged in. Another point where there was much interest manifested was when the herds were in the ring. There was Wm. Steele's fine herd in fine shape, John Lessiter's herd, that had won many laurels, B. F. Batchelor's herd, all reds and in fine shape; and J. C. Sharp's herd that had been fortunate as to individual premiums. J. M. Turner showed to a disadvantage, as the pick of his herd was at the Detroit Exposition. The first prize was given to J. C. Sharp and second to John Lessiter. We did not hear a murmur from an exhibitor in regard to the awards.

The Galloway breeders gloriied in their strength, as there were more of the breed on the grounds than there were of the breed. Among the exhibitors was L. B. Townsend, Ionia, who showed two herds; C. T. Wicks, Stanton; Wm. Keith, Grand Rapids; Wm. Darrow, Pittsford; Nathan Lynn, Grand Rapids; and Thos. Wyckoff, Davidsburg.

Hereforders were shown by Gay C. Henning, Wheatfield; J. M. Turner, Lansing; and Wm. Steele, Ionia. Holsteins were out in considerable numbers, there being the herds of T. D. Seeley, Bay City; Wm. Riel, Grand Rapids; W. K. Sexton, Howell; John B. Nickle, Hoytville; J. Den Bieker, Kalamazoo; Mills Brothers, Ann Arbor; Olds & Bacon, York; W. W. Johnson, Grand Rapids; and M. L. Sweet, Grand Rapids. W. K. Sexton won the special premium on cow of all ages and all breeds, which entitles him to the \$50 special offered by the Holstein-Friesian Association. Jerseys were not shown in such numbers

as in years past. J. W. & W. G. Crosby, Greenville, were out with their excellent herd and won three first premiums. O. J. Bliss & Son, of Crystal Spring Stock Farm, Silver Creek, exhibited 13 head, with Pedro Star and Cretasias Pogs at the head, winning first on aged bull, first on two year old bull and first on tall calf, first and second on aged cow, first and second on cow three years old, second on two year old, first on heifer one year old and first on heifer calf, also first premium on herd and diploma on bull of any age.

Sheep were not shown in great numbers, especially in the fine wool classes, as at some of the former fairs. H. D. Miller, Charlotte, showed 18 head of Angora sheep that were quite a novelty. Thos. Wyckoff, Davidsburg, showed 12 head of Rambouillet sheep that attracted considerable attention. Bush Brothers, Portland, showed Merinos, as also did B. F. Batchelor, Oshtemo; C. D. Mann, Rockford; and L. C. Nelson, Olivet.

Shropshires were shown by J. W. & W. G. Crosby, Greenville; J. Corbitt, Ionia; Henry Lessiter, Grattan, Horace Childs, Childs' Mills; Milton Bros., Marshall; A. W. Hill, Caledonia; and Wm. Steele, Ionia, showed Cotswolds. Martin Van Duzen, Schoolcraft, Oxforddows; and G. S. Allen & Son, Lincoln.

Of swine there were plenty, 59 Poland-Chinas; 28 Chester Whites; 17 Berkshires and six Yorkshire. G. W. Prescott and Milo Edison, Grand Rapids, showed Berkshires. A. C. Searing, Lyons, was out with his Chester Whites; Buck Brothers, of Portland, showed Poland-Chinas. Robert Neve, Pierson, showed a good lot of Poland-Chinas; T. G. Adams, Shelbyville, showed some fine Poland-Chinas, winning first on two year old, boar one year old and diploma for best boar of any age. Geo. I. Strachan, of Palo, was on hand as usual with his fine show of Poland-Chinas. He won first premium on a one year old sow and pen of pigs that were genuine bautes and hard to beat. He also won second premium on two year old sow, two year old boar and one year old. These sows are of the Lucy 2d and Clara Belle families, headed by the high bred boar Standard Third. It is plain to be seen Mr. S. is a careful and enterprising breeder.

The principal drawback to the fair was bad weather. A drizzling rain set in at midnight Tuesday night and continued until Wednesday noon, and when the clouds cleared away a cold wind from the northwest made it very uncomfortable all day Thursday. The attendance was very meager on Wednesday, but on Thursday there was a large crowd that came rather late on account of rain in the morning. Friday was more comfortable, but people from the county did not come in great numbers. Under the circumstances the officers and managers are to be congratulated on the success of the fair. With much in the management to commend, we have nothing to criticize.

CLOVER SEED.

This is a subject upon which an instructive and interesting volume might be written. Quietly and unobtrusively it has been growing in magnitude, until Michigan takes first rank of all the States of the Union, with a production which now amounts in value to \$1,500,000 per annum. We can best comprehend its value by comparison. It would buy half the annual wool clip of the State. At 50 cents a bushel it would purchase our average potato crop. At \$12.50 per head it would buy a hundred and twenty thousand head of cattle. And yet it cuts no figure in the agricultural papers. It is not a politician and consequently demagogues do not harp about it before election as they do about wool.

In 1883 the entire product of the State was 93,323 bushels. Only five counties exceeded five thousand bushels. These were Lenawee, 6,466; Hillsdale, 6,393; Oakland, 5,955; Branch, 5,344; and Lapeer, 5,239. At this time our county of Tuscola only produced 1,643.

The next year being 1884, the production of the State increased over three-fold, being 294,527 bushels. Nine counties reported over ten thousand bushels each, with Eaton at the head with 17,769 bushels; Monroe second with 15,853, and Clinton third with 14,939; Tuscola had 7,247 bushels. The year 1885 seems to have been an off year and reported a reduced production of 262,897 bushels. Lapeer county, which one year previous stood sixth on the list, now comes to the front with a production of 31,159 bushels, and Genesee stands second with 18,129, and Tuscola third with 15,423 bushels.

The year 1886 reports 291,758 bushels in the State, Lapeer still holding the lead with 21,668 bushels, and Tuscola second with 19,732; Eaton County takes third place with 14,843 bushels, and Genesee fourth with 14,357 bushels.

In 1887 the State crop was in total of 355,973 bushels. Tuscola County has produced Lapeer, and taken first place with 28,158 bushels, Lapeer coming in a good second with 24,323 bushels; Clinton takes third place with 20,284 bushels; Eaton stands fourth with 19,074 bushels.

To the student of agriculture the clover question affords matter of profound reflection. In the production of wheat, sheep and wool, the clover crop is an important part. As a fertilizer no other crop bears comparison with it. Standing at the head of all leguminous plants, it draws its chief

nourishment from Nature's great laboratory, the atmosphere, and transfers it to the soil. And while it fertilizes the soil at the same time it acts mechanically as a pulverizer of the soil, in which capacity it stands unrivaled among the plants of the world. The stiffest clay soils yield to its action and become loose and pliable under its influence.

Those who will take pains to study the clover seed question, will discover that production is strongly tending toward this northeastern section of our State. Those counties in "the thumb" are taking the lead. Tuscola County, which in 1885 stood 24th in production, had in 1885 advanced to third place, and in 1887 distanced all the other counties and took its place at the head. It is a noticeable fact that our principal lumber regions are taking the lead in the production of clover seed. Not only do they lead in point of quantity produced, but they are generally far in advance in the average yield. While many of the counties of the State produce less than a bushel per acre, and the entire State yield is but about one and a fourth bushels per acre, our county of Tuscola and many of its neighboring counties report a yield of over two bushels.

Some very interesting statistics might be collected on this subject, but this article has grown too long already. Some very large yields are secured among our German farmers, who seem to have reduced this clover seed business to a science. Some two years ago August Frenzel, living near Mayville, produced from an eight acre field sixty-four bushels of seed; and several other equally large yields have been reported.

Growing clover seed is of itself a science; and a treatise on the best manner of handling it, from first seeding to the cutting, gathering and threshing would constitute a most valuable work for the study of the agriculturist. In conclusion, the moral I wish to point by this article is to call public attention to the untold value of our Michigan "stump lands" in the future of the agriculture of our State.

OLD GENESSEE.

AMERICAN EXHIBIT IN PARIS.

Mr. Cyrus H. McCormick, of Chicago, talks with a Correspondent—He says the Commissioners are All Right—The McCormick Harvesting Machine Company's Exhibit and the Field Trials at Noisiel.

PARIS, Aug. 31, 1889.

"I think the exposition a grand success; it is a monument to the French people," said Mr. Cyrus McCormick yesterday to a reporter who called upon him at the Hotel Menier.

"You have come to Paris especially for the exposition, I fancy?"

"Yes, I came to look after our exhibit in Paris. I shall leave here Friday for London, however, and expect to sail the latter part of next week for America. It was my intention to remain until October, but affairs in Chicago hasten my return."

"And you think the American section compares favorably with the other departments?"

"It is very good as far as it goes, although it is not large enough."

"Do you find that the commissioners of whom complaint has been made have done their part well?"

"I cannot see that there can be any fault to find with the commissioners—in fact, I think that they have done very well with their appropriation and management. The main trouble is that the Americans have not realized the importance of coming here in force."

"How do you think American manufacturers of farming implements compares with foreign makes?"

"The special point of difference is the novelty and mechanical ingenuity of American improvements in agricultural machines; Americans are more progressive and creative in these particular instances. The enormous sale and the large distribution of prizes and medals for American manufactures in foreign countries is in itself a proof of their superiority as well as far-famed popularity."

"You were pleased with the result of the work of your machines at the recent field trials at Noisiel?"

"I was quite satisfied. It was conceded by all that the wheat and oats upon which the McCormick machine operated were the most tangled portion of the entire field."

FIELD TRIALS AT NOISEL.

The correspondent was present at the recent trials at Noisiel, and the facts may be interesting to Chicagoans, since the affair largely concerns one of that city's great manufacturing establishments. The trials in connection with the exposition were held on the model farm of 2,100 acres belonging to the Menier family, of chocolate fame, situated near the chateau at Noisiel, a village twenty-eight miles northeast of Paris. Friday morning at seven o'clock lots were drawn for the pieces of wheat, which were divided into equal parts of one acre each. The drawing resulted in the following:

1, Hetu (French); 2, Massey (Canada); 3, McCormick (French); 4, Johnston Harvester (Canada); 5, Johnston Platform (Canada); 6, McCormick (French); 7, Wood (regular wooden frame); 8, Wood (single elevator); 9, Osborne; 10, Albion (French).

blown with the next four to be cut, while lots 10 and 11 were more like the first five, though heavier.

Lot 7, which fell to McCormick, was without doubt the most piece of all. Heavy throughout, the whole lower half was beaten down and twisted in such a way that no man could have expected to cut it with a binder, and probably no other machine would have undertaken the work of cutting it. Such is the fortune of these contests, however, where chance is called in to aid the jury, and the McCormick binder entered upon its work as if it had the straight grain and easier task which had fallen to its more fortunate rivals. Without a single band missed, it laid off the bundles with speed and regularity and did its work in a manner so perfect as to astonish those who were not already familiar with the capability of the McCormick machine.

One team of two horses drew the McCormick binder with ease during both trials, but the Wood machine was obliged to change horses during the cutting, and, in the language of the superintendent of the farm, their first team was "ruined for life."

The same numbers were preserved in cutting oats in the afternoon, and as luck would have it lot seven proved to be the worst of all, fully one-half of it being down on the ground, as if a roller had been continuously at work upon it during the incessant rain of the preceding two days. These plots were also an acre in size, and the McCormick again finished its work without missing a band.

Saturday morning was occupied with the test of the mowers in a large field resembling alfalfa. The mowers competing were:

U. S. A.	England.	French.
McCormick, Harvesting Machine Co., Chicago, Ill.	Samuelson, J. & Co., London.	Albaret, J. & Co., Paris.
Osborne, John, Wood, Massey (Can.), Harris (Can.).	Harrison McGregory, London.	Horton, Peard.

The long bar (five feet) of the McCormick and its noiseless running were the features in mowers and attracted great attention, while the springs and the light draft won for it the admiration of all. During the afternoon the binders were tested in a large field of oats, the machines following each other in line, and here the good work of the McCormick showed to good advantage. As the binders one after another passed by the "individuality of the McCormick Simple Knotter" was noticeable.

Sunday morning, the 31st, was appointed as a fête day, and the fair was decked out in flags. Over the largest lot of the McCormick company floated the American and French flags.

An immense arch of sheaves of wheat piled upon a framework had been constructed under which the President of the republic passed in arriving by special train from Paris to see the binders at work. The family carriage of the Meniers, drawn by four gray horses, with postillions and outriders in red and blue liveries, carried the President, and members of the cabinet followed in similar style.

The binders were in line awaiting orders to move and the McCormick was at the head of the line. Mr. Cyrus H. McCormick, president of the McCormick Machine Company, introduced to President Carnot and explained to him the special features of the binder. The President expressed himself as highly pleased with the work done, examining with care the handles as they were dropped by the machine. The other binders then followed.

In the adjoining fields of luzerne the mowers were next exhibited, following each other as the binders had done, and they received the attention of President Carnot and his suite as they passed in turn.

A special pavilion tastefully decorated had been prepared for the President, and thither repaired the presidential party and invited guests. Mrs. Menier gave them a cordial welcome, at which time President Carnot embraced the occasion to confer upon Mrs. Menier the decoration of the Order of the Merite Agricole—a rank just below the Legion of Honor.

A BANQUET GIVEN BY THE MENIERS. At 6 o'clock 600 guests attended a banquet given, in a tent prepared for the occasion, in honor of President Carnot and the minister of agriculture, as well as others in official position. As a neat compliment to the McCormick Machine company Mr. Menier, his managers and superintendents, kept the McCormick machine after the trials to finish their cutting, having expressed their preference for that binder above all the others.

As a matter of course, just now the Paris exposition forms a meeting place for all the great industries of the world. The French people have brought it to a brilliant success, with a completeness of detail which is marvelous. After the interview with Mr. McCormick yesterday the correspondent made a tour of the agricultural machinery department of the Exposition, where the McCormick wheat market of the world—stands in a conspicuous light through the enterprise of one of its large manufacturers—the McCormick Harvesting Machine company, to whom it is reported that high honors will soon be accorded, having fully shown itself able to maintain the position it has held for over fifty years as the leader of its line of business. One is first impressed with the fact that not one of the reapers now exhibited in Paris was here at the exhibition of 1855 except that of the McCormick.

The correspondent noticed particularly the beautiful finish and symmetry of design of the machines. The McCormick is the only binder which can use wire or twine at will by a few moments' change of the mechanism. Upon a raised platform, handsomely decorated were the McCormick's binder, reaper, and mower. The woodwork is birch, maple, rosewood, second growth hickory, and the steel parts are burnished of silver or nickel-plated. Placed in front of a dainty little bison of a house where the Paris agents are seated is a simple silver sign which tells an important history:

PARIS. 1855. GRAND PRIX. PARIS. 1867. GRAND PRIX. PARIS. 1878. GRAND PRIX.

Here we find the veteran of the first great French exposition carrying off the highest honors in the subsequent ones, and now

transformed, improved, and simplified, so that it stands as far ahead of its rivals of to-day as did the predecessors of this machine when they won for the name of McCormick the honors of the field in former days.

SKETCH OF THE CAREER OF CYRUS H. MCCORMICK.

Perhaps the career of Cyrus Hall McCormick is well known to the intelligent people of Chicago. The founder of the business was born in 1809, in "ole Virginia," and invented his first reaper in 1831. It was he who was the pioneer inventor of the modern harvesting machine, his reaper having been the first practical success, although numerous attempts had been made before that time. In 1845 he was making machines yearly as well as over-coming the usual difficulties which all encounter who create a new line of invention. Long since then his early competitors have passed away and his machine alone has survived that early period.

HONORS CONFERRED.

At the world's fair of London in 1851 Mr. McCormick achieved his first international success, having received the highest awards of the exposition and grand gold medal. The London Times after examining his machine ridiculed it as a cross between "an Asley chariot, a wheelbarrow, and a flying machine," and when it was tried in the field the Times made haste to correct its mistakes, and said that it was in value "worth the entire cost of the exhibition."

PARIS EXPOSITION OF 1855.

Mr. McCormick received the grand prix of the 1855 world's fair. The jury reported that his reaper was "the type of all the reapers of the present day."

Again, at the Paris exposition of 1867 the McCormick reaper received the grand prize above all competitors and at the exposition of 1878 the McCormick wire binder received the highest prize, again defeating the Wood and Osborne binders at the trials at Noisiel. The McCormick binder is the only American machine that has ever received the gold medals of the Royal Agricultural Society of England in competition with all the modern binders.

In 1884 the company met with a great loss by the death of its president and founder. Mr. McCormick had many honors conferred on him, having been decorated with the Chevalier and Officer of the Legion of Honor, as well as having been elected a member of the Institute of France on the ground of "having done more for the cause of agriculture than any living man."

In succeeding to the office of president, Cyrus H. McCormick Jr. has been able to maintain and increase the volume of business of the company by the efficient aid of those who held important positions under his father's management.

Chicago can justly claim the credit of the largest reaper works in the world. The McCormick company made this season 85,000 machines, of which 30,000 were binders. Although these numbers seem fabulous they are authentic.

Stock Notes.

G. A. WATKINS, the Pennsylvania Mutual Life Insurance man, and owner of the Watkins Stock Farm at Birmingham, Oakland Co., has the largest herd of Shetland Ponies in the State. He took \$300 in premiums at the Exposition, and purchased several of the prize winners from other competing herds. He is the owner of the little Mudget and Mite (mare and colt) that attracted so much attention.

Mr. J. C. SHARP, of Jackson, will sell about 30 head of Short-horns at his farm, two miles from Jackson depot, on Friday, October 25th. There will be 20 females and 10 bulls in the lot, all of the young animals being sired by Sharon Duke of Bath 64449. A number of the animals shown at the Jackson and Grand Rapids Fair will be included. Catalogues can be had by addressing Mr. Sharp.

At the Ionia County Fair, the Crosby Brothers, of Greenville, Montcalm Co., were awarded the following premiums on Shropshires: First on two year old ram, second on yearling ram, second on ram lambs, first on three year old ewes, first on ewe lambs, second on one year old ewes. Their herd of Jerseys was also at the front, getting three firsts on bulls, and three firsts and one second on cows, and first on heifers. As there was a car of stock from Eureka Farm at the Elmira, N. Y., Exposition, and another at the Meosota County Fair, at the time the Ionia Fair was in progress, it was a fine showing for the Messrs. Crosby.

Mr. J. CORBITT, of Ionia, breeder of Shropshires, sends the following record of his flock at the Ionia and Grand Rapids Fair: At Ionia his stock ram, Buffalo Bull, got first in his class, and he also got first in yearling ewes, first in two-year-old ewes, and second on three-year-olds. At the Grand Rapids Fair, where the competition was strong, Bill got first. Mr. Cor

Horticultural.

New Grapes.

A history and description of the leading varieties of new grapes was recently given in an address before the American Nurserymen's Association. It reads as follows:

The number of new grapes of more or less promise, which have been introduced within a few years past, has been so large that I cannot within the limit of this paper, do more than notice a few of those most prominent, and which seem most promising for permanent value. The points to be determined as to a new grape should be: "Do we need it?" And is it, in any important respect, better than those we have already? Unless these questions can be affirmatively answered, I should say there was no place for it, and no propriety in adding it to a list already too long, of varieties whose usefulness is certainly very limited, if not doubtful.

The Niagara grape is comparatively new, and although it has not been found adapted to very general cultivation, is still one of the most profitable and valuable for such localities as are suited to its requirements. It has not proven as early nor as hardy as represented by its introducers; neither has it been more exempt from mildew of foliage or rot of the fruit than the average. But its vigorous growth and abundant bearing, with quality and appearance good enough to satisfy the mass of buyers and consumers, render it one of the new grapes worthy to be retained and recommended, where it can be successfully grown.

The Empire State is a formidable competitor for public favor with the Niagara. It is about equal to it in vigor of growth, probably little, if any harder in severe winters, but within my experience has better foliage, much less disposed to mildew. In productiveness, usually somewhat less than the Niagara, but to my taste, in quality greatly its superior.

Moore's Diamond is a still later introduction of which I speak from a limited experience; but with the hope of bringing out information from those who have grown it longer. With me it appears no harder nor healthier in vine or foliage, than the Empire State. About the same in vigor of growth, but not as productive, with bunches and berries somewhat smaller. In quality distinct and pure flavored, but not better.

Another new white grape of the Labrusca class, as yet but little known, originated at Columbus, Ohio, and named "Witt," after its originator, by the Ohio State Horticultural Society, has the merit of hardiness and health of foliage, and is fairly productive of handsome clusters of good size, and fine quality. It is doubtless a Concord seedling, and resembles the Martha in foliage and habit of growth, but its bunches and berries are much larger and its quality and flavor much better.

The Woodruff R-d has many good points to commend it, although there are differences of opinion as to its character and value. It originated near Ann Arbor, Michigan, and is claimed to be a Concord seedling. It seems to have all the vigor of growth, health, and hardiness of its reputed parent; and to have all the requisites for a popular and valuable grape, as nearly suited to general cultivation as any variety new or old, yet introduced. It bears abundantly, producing berries and clusters of the largest size, bright and attractive in color, and attractive in color, and ripening with, or a little earlier than Concord. It is, however, a variety pronounced in character, and distinct in flavor, a pleasant mixture of sweet and vinous acid, with a somewhat of the "native aroma" called foxiness, which to the many, when not in excess, is an added charm, and to the few an "unpleasantness." As many as nineteen and twenty who have eaten this grape in my presence, have called it excellent, and some have even pronounced it as good as or better than the Delaware. I cannot agree with this latter opinion, but I have long ago ceased to dispute or quarrel about matters of individual taste; yet I do think the Woodruff has more of the characteristics of the popular and valuable grape for general planting, for market and for profit than any other red grape within my knowledge. I would therefore plant it for the nineteen who are satisfied with it, and let the twentieth look out for something else.

The Eaton is another new grape, black in color, and I believe is called a Concord seedling. It somewhat resembles the Woodruff in vigorous growth and healthy foliage; as to comparative hardiness, and period of ripening, I cannot say. As I have seen and tested it on several occasions, it has less of sweetness and also of the "native aroma"; its juice being rather thin, and acid. It is, however, large both in bunch and berry, quite showy and attractive in appearance, and perhaps good enough to be popular and profitable for market and general use.

A black grape of entirely different character is the Jewel, originated by John Burr, of Leavenworth, Kansas, which has been highly commended in some sections. The vine is of the Labrusca character, hardy in winter, with healthy foliage, in general habit much like Early Victor. It ripens very early—at Delaware, O., from the middle to the last of August, according to the season; a little before Moore's Early. The vine is very productive; berries and clusters only medium, about the size of Delaware, or a little larger; skin thin, but tenacious, will carry well. Flavor pleasant and sprightly, not foxy. It has small seeds, and though a little pulpy, is not acid, or coarse at the center. Its rather small size, and only moderate growth are about its only faults; and though to my taste not as some have claimed, as good as Delaware, it is the best in quality of any very early ripening black grape that I have seen.

The Moyer is a new grape from Canada, that I mention for the purpose of having its merits discussed. As I have grown it, it is not as vigorous as the Delaware, though the foliage appears rather thicker, and better able to resist mildew; I fear the size of the clusters is smaller than Delaware; and its claim for extreme earliness seems to be its prominent recommendation.

Another red grape of something the same character, not yet introduced to the public, seems promising. Specimens were sent me from Indiana last season. Others were brought to the winter meeting of the Ohio State Horticultural Society, last December,

and were found of excellent quality and remarkable for long keeping. A vine sent me for trial shows vigorous growth, with very large, thick, heavy Labrusca-like foliage. The grape resembles Delaware, with somewhat larger berries and clusters, and deeper color. It is rich and pure flavored without foxiness, and pronounced very good by all who tasted it. It was named by its originator Mary's Favorite. I am not informed whether it is to be propagated and offered for sale; but it appears to have merit above many grapes that are now on our list.

The Downing grape, which was originated by Mr. Ricketts some years ago, has been lately introduced by Mr. Burrow, of Fishkill, N. Y. Although it is said to have been successful in some places in New York, I have found it unusually subject to mildew of the foliage, and entirely unsuited to open culture in my locality.

The Mills grape the past season failed to ripen its wood, by reason of mildew of foliage, which fell prematurely, and I should class it with the Downing, as only desirable for amateur culture in specially favorable situations.

The Uster Prolific, originated by the late A. J. Caywood, has some claims for consideration, and will probably be found useful in many localities, for its hardiness and productiveness, with good quality of fruit, and healthy foliage. The vine is of moderate growth, berries and clusters medium, color rather dark brownish red.

The Nectar, which was first called Black Delaware, by the same originator, is offered for sale, but I can only report vigorous growth and healthy foliage.

I may also mention Francis B. Hayes, by the originator of Moore's Early. The vine is healthy, and of the Concord character, in growth much like Martha, and also in size and appearance of its fruit, but ripening earlier, less foxy, and better in quality. I do not think it as good, however, or as promising for general use as the Witt grape or the Concord, another White Concord seedling of similar character, which originated in Belmont County, Ohio.

We need a grape having all the general characteristics of the Concord or the Warden, with a more tenacious skin, which will bear handling and shipping with less injury, with also better quality and better keeping qualities.

We need also a Delaware, with more vigorous growth, larger fruit and healthier foliage. Or if we could have a grape like the Delaware, born upon a vine having the character of the Concord for health of foliage and adaptability to different soils and locations, every grape grower would at once recognize its immense importance.

The Apple Crop in New York.

There can no longer be any doubt relative to the failure of the apple crop in western New York the present season. Every county heard from verily the fact that in apples of the winter varieties especially only a small percentage of the usual crop will be grown, and that of small and inferior quality. It is said that Orleans County will scarcely produce a single barrel of No. 1 fruit the present season. During an extended tour through the counties of Wyoming, Chautauque and Chautauque, in the southwestern portion of the State, I learn that the failure is universal, and in many localities farmers will be obliged to secure their family supplies from outside markets.

All through the great fruit-growing counties of Niagara, Wayne and Monroe comes the report of the failure of winter fruit. Here also in Genesee County, from my window as I write, can be seen an orchard of 2,000 or more apple trees of the choicest varieties that will barely produce sufficient for home requirements. Consequently those having a surplus of this product to dispose of the present fall may well look for paying prices. Michigan is reported to have more than an average crop, and of excellent quality, and while other localities may be equally fortunate, yet a general failure in western New York can but result in conditions nearly opposite to those experienced one year ago, when she contributed so largely to overstock the markets of the world with her green and evaporated fruits at low and comparatively unremunerative prices. Notwithstanding the present discouraging outlook for many of us in the matter of fruit-growing, the result will be that the surplus stock of evaporated fruit will find an outlet, and an increased demand will undoubtedly exist the coming season, when we may hope for better returns from our orchards, and prices that will stimulate to greater zeal in the work of caring for them in all the essentials calculated for success in that direction.—*Irving Co. & Genesee Co., N. Y., in American Cultivator.*

Gooseberry Culture.

The soils best suited to successful gooseberry growing, says Mr. B. G. Galt, have been found to be thoroughly drained, rich and deeply worked clay loam. The qualities of soil are imperative, as the plant is very impatient either of excessive dryness or heat. This is one of the chief causes why success with it is so uncertain in our climatic conditions. But with a moderate amount of protection from dryness and heat, the success of gooseberry growing, from improved American seedlings, is assured. To secure these conditions, location must be skillfully used. The young plants at two years old will be fine, strong and well rooted, whose after growth will be rapid; carefully planted in ground previously well prepared, and marked off four feet apart each way. This planting gives 1,725 plants to the acre, and will give satisfaction to the workers and pickers, and if every plant grows it will make a fine plantation after the first year's growth. The ground must be kept stirred, by means of a one horse cultivator, between the rows both ways, and not a weed allowed to be seen. The young bushes make extraordinary growth of young, thrifty wood, and the set of fruit buds will be astonishing, repaying all the care lavished upon them. In gooseberry growing, as in every other kind of fruit culture, if one would wish to reap the highest result, unceasing vigilance and constant application must be certainly and freely given.

The annual pruning consists in shortening the summer's growth to a moderate extent, and thinning out the crowding shoots. This operation is generally and best done in the early summer, as the growth of wood and fruit buds on that which is left, will be

so much better and more encouraging to the grower. After the wood has borne fruit some three or four years and becomes old and feeble, cut it entirely out and encourage the young growth in its place. This renewing is very important in all pruning for fruitfulness. We have known a gooseberry plantation to be profitable after having been fruited for 20 to 25 years, but we do not advise this kind of thing; we believe that the best results come from young and vigorous plants, as in other fruits, and would advise changing the plantations after ten years' service, as young plants are produced so cheaply that there is no economy in running a plantation after its prime has passed.

Cut-Worm Destroyer.

For agility, strength and ferocity, the larva of the common tiger beetle is a veritable tiger among the insect world. Its body is long and narrow when young; but becomes broader as the larva approaches the pupa state. After each moult its color is a soft, creamy white, which in a few hours changes to a dead black, except in the creases and under parts, which remain lighter. When hungry, it is lithe, active and quick-motioned, jerking, twisting and throwing its tail up over its back when molested. Its strong jaws, too, are ever ready to be used in its defense as in procuring food. The specimens observed by me seem to prefer cut-worms as an article of diet, the common garden worm being usually chosen. The tiger larva seizes the worm near its head as it lies in its underground retreat. The struggles of the doomed worm—often several times larger than its assailant—throw both combatants to the surface of the ground, where it continues in the vain effort to free itself until it can struggle no longer, the bloodthirsty little tiger burying its jaws deeper and deeper into its victim, until sometimes its whole head and fore legs are hidden. Without loosening its hold it continues to drain the worm until it is gorged and the worm a mere shell, when it leaves what remains of its victim and retires under the damp earth, where it remains until ready to moult.

In one experiment three tiger beetle larvae, two of them over half an inch long and the other much smaller, were placed in an insect cage containing thirteen cutworms. In two days only three of the worms were left in company with the two larger tigers, the smaller and the ten worms having been killed and devoured by the larger two. The worms were not, however, so completely drained as those I had observed before. Probably the larvae had selected the choicest parts on account of the plentiful supply. They had visibly increased in size, but not to the extent one might suppose after having had such a feast. The supply of cut-worms running short, the stronger larvae did not allow his brotherly regard to interfere with his appetite, but fell upon and devoured his weaker companion. I kept him weeks, during which he ate seventeen worms, nearly all of them larger than himself.

But a fate more terrible than that of the cutworms overtook him at last. He became dormant and prepared to go into the pupal state. For a day or so I had noticed many very small flies around his cage, but did not think of parasites, which was just what these flies were. The tiger larva shed his larval skin, and while he was in this condition, soft and utterly helpless, the parasites attacked him. The little flies had laid their eggs on him and the myriads of tiny maggots that hatched out of these eggs burrowed into him and literally ate him alive—a cruel ending to a cruel life. When nothing was left of him but a shell, and very thin shell at that, the maggots pupated, and shortly came forth tiny, innocent looking flies to act over the same tragical drama. Well, such is (insect) life! In the midst of prosperity comes adversity, and vice versa.

Fruit Notes for the Novice.

W. F. Brown in the *New York Tribune* gives some facts from his experience as a fruit grower which will be valuable to beginners, or those about to plant orchards. Mr. Brown says:

I began planting fruit for market in 1858, have raised it for sale ever since, and from my failures and successes I think I can furnish lessons of experience which will be valuable to the novice. The first mistake I made, and of a very common one, was in planting too many varieties, and—of apples—too large a proportion of early fruit. My first apple orchard contained 100 trees, and instead of studying the market and finding out what would sell best, my idea was rather to get as many kinds as possible. I think I had nearly forty varieties in that orchard, and with the exception of two (Maiden's Bush for summer, and Smith's Oiler for winter, of each of which there was about half a dozen trees), I never made anything from the orchard. A man living near a city market can often make a profit from summer apples, but they are so perishable, and the market is so easily overstocked, that there is great risk in handling them, and he who must depend on a commission man will rarely get any profit from them. Winter apples, which may be kept for a long time, and bear shipping to a distant market, will give much better profit; but even in planting these it is easy to make a mistake, for a wagon-load or a car-load of mixed apples will never sell for anything like the price that they will if of one standard kind. Two questions you should be able to answer affirmatively before planting fruit trees for profit: 1. Is the variety suited to my soil and climate? 2. Is it well known and salable in my market? Leave the testing of new sorts to the amateur, and even before you plant a generally recommended variety, know its habits in your own locality. For example: If located in northern New York, you could not choose more wisely than to plant a whole orchard of Northern Spy, but here, in southern Ohio, it is almost worthless, as it ripens in September, when there is a glut of fall apples, and as it decays quickly there is no demand for it except to make cider.

I have an orchard of Bartlett pears, and no matter how abundant the fruit crop I can always sell them in bulk for the cash. Some years they brought only 60 cents a bushel, but that was rare, while several of my neighbors who have orchards of mixed pears and of excellent varieties, cannot sell a bushel. I have just sold my Bartlett (160 bushels) at a fair price, and yesterday one of my neighbors went to the same market with a load of beautiful mixed pears, and could not get an offer on them, and did not sell a peck, and

for several years his crop has either rotted on the ground or been fed to hogs. As I look back over my experience with orchard fruits I see that I have made no money except when I have planted enough of a single kind of fruit to make it an object for me to watch the market, and be known from year to year as having some particular kind of fruit in abundance. Within the last twenty years I planted one orchard of 100 early May cherry trees, another of 200 Bartlett pears, and a third of 125 quince trees. I sold much of the fruit to farmers, and my circle of customers enlarged from year to year. My greatest mistake in growing these fruits was in not planting a second orchard of each before the first began to decay. I have seen nearly as disastrous results from planting a great variety of strawberries as of apples and pears; most new beginners with this fruit pass through an experience in which they buy nearly every new and high-priced berry offered, but all the strawberry-growers of my acquaintance who have made the crop profitable have confined themselves to very few varieties, and often to a single one. A near neighbor raises strawberries by the acre, and some years ago when he had a large assortment I have seen rows eighteen rods long grown from varieties that cost ten times the price of standard kinds, and which never yielded one quart of berries where the others produced a bushel. He now grows Crescent for profit, and experiments sparingly with the "new" and "superior" (?) kinds.

Horticultural Items.

THAT was a profitable pear tree which Albert Fairbanks, of Fillmore, Allegan County, owns. He gathered 17½ bushels of Bell pears from it, which brought him a dollar a bushel.

ADVICES from England are to the effect that the domestic supply of apples there will be much smaller than usual, and the prospect is therefore good for good prices for shipments from this country. The apple crop of France is also light.

A SYNDICATE of Chicago and Philadelphia fruit dealers will plant at Pomona, Los Angeles County, Cal., the largest fig orchard in the world. Two hundred acres will be set this winter, and the expectation is that as good dried figs can be grown as can be made in Smyrna.

At the N. Y. State fair, Elwanger & Barry, of Rochester, made an exhibit of 126 varieties of pears, all carefully named. There are less than fifty sorts, however, which are profitable market varieties. James Vick's Seed gave \$450 in prizes on six sorts of vegetables from seeds furnished by them.

The Massachusetts Ploughman says the fire worm is being rapidly disseminated throughout the cranberry bogs in that State, through the thoughtlessness of growers who buy and set out vines from bogs where this pest is found. Better, says the Ploughman, set the common wild berry than run the risk of introducing so dangerous an enemy as the fire worm.

JOSIAH HOOPER, in the *N. Y. Tribune*, says: "There is scarcely any fruit more tractable than the quince, nor one that responds more readily and quickly to good culture. Good soil and regular feeding are what it needs to insure success, and without them failure is a fixed fact. The newer Champion variety is doing finely in some sections, and this moist season is now making the most astonishing growth."

In the orchard of D. C. Calf, Metropolitan Avenue, Rosinola, there are two pear trees and two crab-apple trees that are laden with fruit and at the same time bright with fragrant blossoms. It is a beautiful sight, worth going far to see, but hardly worth the price probably paid for the loveliness, as such fruits of nature's bounty are almost positively the speedy death of the tree.—*Massachusetts Ploughman.*

L. B. PIERCE advocates two or three pickings of summer fruits, especially of pears. Mr. Pierce says he has picked the ripe fruit from his Bartlett trees, and left the small and immature, only to find when he went to gather the latter, that the trees, relieved of part of their load, had ripened and enlarged the fruits, till the second picking was nearly as good as the first. Immature pears thus left will ripen and be in good condition to show two weeks after the main crop is off.

The Halo Bros., of South Glensbury, Ct., in shipping peaches make three grades and pack the middle and bottom of each basket with just as good fruit as is placed on top, paste a label on each basket and guarantee the contents. Of course extra help is required to do this work, but it more than pays in quick sales at good prices. The labels are of three colors, red for extra, white for No. 1, and blue for No. 2, and customers soon learn what to expect when either color is ordered—a uniform grade every time. The Halo Bros. have over 12,000 peach trees in bearing this year, in three orchards, and loaded down. Nearly half the yield was picked off early and thrown away to save the trees and remaining fruit. The leading varieties are Mountain Rose, Oldmixon, Stump, Early and Late Crawford and Smook.

Bolls and Pimples and other affections arising from impure blood may appear at this season, when the blood is heated. Hood's Sarsaparilla removes the cause of these troubles by purifying, vitalizing and enriching the blood, and at the same time it gives strength to the whole system.

Aparian.

Comb Honey.

As the season for caring for honey is here, and as I am convinced by conversations with some beekeepers, as well as people generally, that a great many do not know how to care for honey, a few words may not come amiss at this time on the subject.

In the first place, there is no hurry about taking it off the hives. The bees can care for it more cheaply, and even if it is not quite so white as when taken off earlier, its flavor is improved by perfect ripening, which to my mind, more than compensates for the slightly darker shade which the comb presents.

If taken off during warm weather it will sometimes be spoiled by the larvae of the bee-moth. The combs can be fumigated with sulphur in a tight box or room, but this is seldom necessary, and is not practised to any extent by the best honey producers. If comb honey is produced by the best methods there will be scarcely any pollen cells in it

and in the absence of these the moth does little harm. A worm is seldom seen in surplus honey unless there is pollen in some of the cells. When honey is taken off the hive, if in small sections containing only one comb each, it can be held up to the light and every cell of pollen detected. If these are kept by themselves and used or sold first, the rest will be comparatively free from moths.

Honey should never be kept in a cellar—neither comb nor extracted. This is the worst possible place for it. It will gather moisture or "sweat," and soon become "off flavor," if not positively sour. Store it in a dry, warm room if possible (safe from mice), then it will keep ten years. It will not granulate so soon in a warm room, and its flavor will improve. I now have some that is three years old, and it is not candied, but is so thick that it will not run. Extracted honey cannot be kept in too warm a room.—*Eugene Secor, in Iowa Homestead.*

Honey Statistics.

Gleanings in Bee Culture has recently given some valuable statistical information relative to the probable quantity of honey secured this season. On account of the cool wet weather in the early part of the season, which, according to the reports, seems to have pervaded almost all of the United States, the honey-crop is considerably less than it might have been. First, because this weather continued clear up, in a good many of the places, into the time of year when the main nectar bearing flora was in bloom. Second, the bees were unable to breed up properly on account of the cool and rainy weather, and hence the actual working force of the bees was considerably lower than it should have been. But in spite of all this, the season has been decidedly better than last year, in most localities, although there are some exceptions.

Twenty States report a good season, namely, Alabama, Arkansas, Georgia, Illinois, Iowa, Kansas, Kentucky, Louisiana, Minnesota, Missouri, Nebraska, Nevada, New Jersey, North Carolina, Ohio, Pennsylvania, Rhode Island, South Carolina, Wisconsin, Arizona.

The following States report a poor season generally: California, Connecticut, Florida, Indiana, Maine, Maryland, Massachusetts, Michigan, Mississippi, New Hampshire, New York, Tennessee, Texas, Vermont, Virginia, West Virginia.

Michigan, though usually among the foremost, gives an unfavorable report as any of the States enumerated.

It is interesting to note that a number of States report 200 per cent of an average crop of honey received. W. P. W. Duke, of Alabama, and J. L. Clark, of Florida, report 200 per cent, while a large number of others give 175 per cent as the average crop. Taking it all in all, we find that the average crop of honey secured in the respective localities stands 75 per cent. The same average a year ago was only 50 per cent; so that according to the reports, 50 per cent more honey has been secured this year than last, although the general average is still down.

JAMES HEDDON says success in wintering bees out of doors is largely a matter of locality, and what we most need to know is that undisturbable thing, what the weather of the coming winter will be, in advance of its coming. For mild winters, outdoor wintering is best, but who can foretell the mild winter?

THERE is a great deal of white clover grown by farmers in the vicinity of St. Lawrence, Wis. That the bees appreciate it is proven by the success of Joseph Einsinger, whose 118 colonies of bees have given him a ton of honey this year. He claims to have extracted 4,000 lbs. in a single day. A colony of bees owned by A. J. Tibbitts, of Dunn County, made 93½ pounds in nine days, the largest day's gathering being 10½ pounds.

In mentioning the apian exhibits at the Detroit Exposition, we inadvertently omitted that of Mr. Faulkner, of Jamestown, N. Y., who we have since learned made a very fine display, and secured the largest sum in premiums awarded any individual exhibitor. Mr. Faulkner's display was not placed with the rest of the exhibits in the apian department, hence the failure to mention it. Mr. E. Weed, of this city, had some samples of his artificial comb on exhibition, and informs us the machine which is to manufacture it is very nearly perfected.

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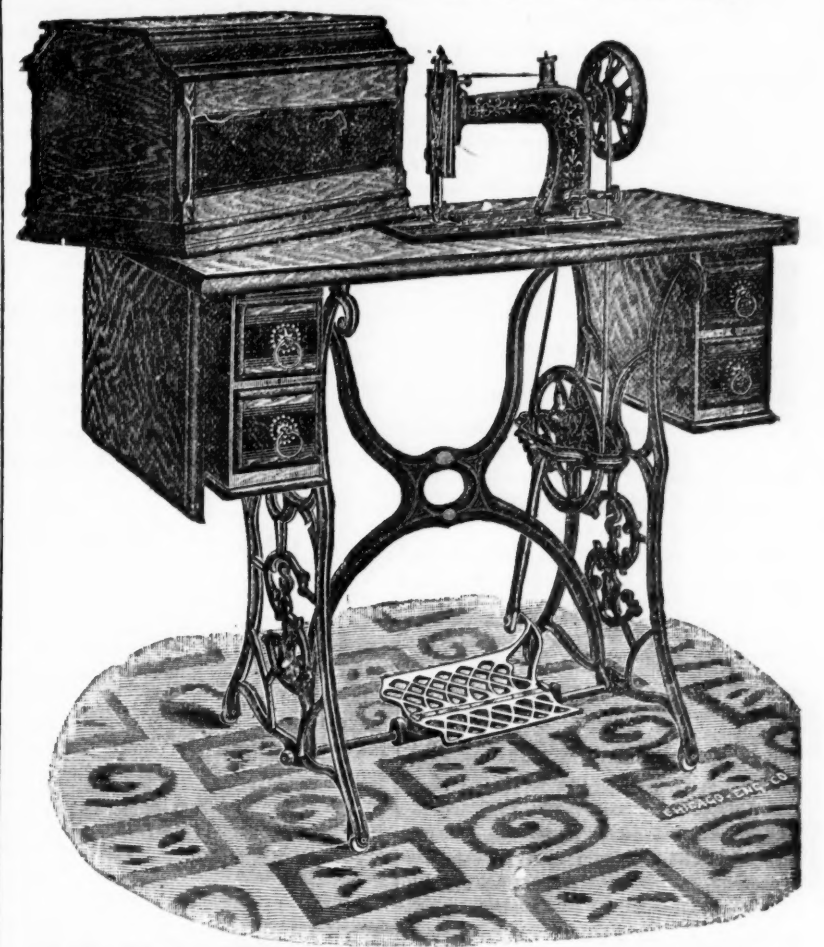
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HIGH-ARM IMPROVED SINGER.

With each of these machines we furnish one Ruffler, one Tucker, one set Hemmers, one Foot Hemmer, one Sewing Driver, one Wrench, one Oil Can and Oil, one Gauge, one Gauge Thimble-Screw, one extra Throat-Plate, one extra Check-Spring, one paper Needles, six Bobbins, and one Instruction Book. These articles are all included in the price named.

Bear in mind that these machines are thoroughly made and of first-class workmanship, and

EVERY MACHINE WARRANTED FOR FIVE YEARS.

These machines furnished to subscribers of the FARMER for

\$18.00!

Which includes also a year's subscription to the paper. There never was a high-arm machine sold before for less than three times this price.

These Machines Guaranteed for Five Years.

Purchaser pays freight, which runs from 65c. to 90c. on each machine, according to location of purchaser.

CASH MUST ACCOMPANY ORDERS.

Samples of these machines can be seen at this office. Address orders to

GIBBONS BROTHERS.

DETROIT, MICH.

OUR NEW MACHINE "THE MICHIGAN."

Manufactured expressly for the MICHIGAN FARMER.

We have Tested all the Machines Manufactured and finally decided on the MICHIGAN as the Simplest in Construction, the Finest in Finish, the Lightest Running, and doing the Best Quality of Work. This decision we arrived at for the following reasons:

1st. All the parts are made of the finest metal, and with the utmost care and precision, and are subjected to the test of an accurate steel gauge, before being assembled.
2d. It is simple in construction—having few parts, no complication, and not liable to get out of order.
3d. It is a high arm, giving ample room for any kind of work.
4th. It has a self-setting needle, thereby saving the operator much annoyance. It is very light-running, and not tiresome to the operator.
5th. It does a wide range of work, either fine or coarse, and both equally as good.
6th. It has the Fish Patent Loose Balance Wheel, nickel-plated—with Patent-Stop Motion, the most complete arrangement of the kind in use.
7th. All the running parts of the machine subjected to wear, are made of the finest steel, case-hardened, thereby insuring great durability.
We furnish with each machine a complete set of attachments, put up in a velvet-lined case, consisting of one Ruffler, one Tucker, one Quilter, one Shirrer, one Braider, one Thread Cutter, one Binder, and one set of Hemmers; also the following accessories: Six Bobbins, one Paper Needles, one Foot Hemmer, two Sewing Drivers, one Gauge, and one Instruction Book.

EVERY MACHINE WARRANTED. Highly Ornamented Head, Nickel-Plated Balance Wheel, Drop-Lest Table of Oil-Polished Walnut, Gilt-Box Cover with French Veneered Panels, Case of Two Drawers at each end of Table, with Locks and Veneered Fronts. These machines will be furnished to subscribers to the FARMER for

\$21.00,

Which Includes a Year's Subscription.

A Guarantee from the manufacturer for five years is sent with each machine. CASH MUST ACCOMPANY ALL ORDERS. The purchaser pays the freight, which will be less than \$1.00 on any part of the State. A sample of the machine can be seen at the FARMER Office. Address all orders to

GIBBONS BROTHERS,

DETROIT, MICH.

Nothing Succeeds Like Success.

I have been successful in the production of Comb Honey for the past ten years, and my life's pamphlet, "How I produce Comb Honey," briefly explains the method I pursue. By mail, 5 cts. per copy; per 100, \$5.00. My illustrated price list of General Supplies, Bees and Queens.

Young Strawberry Plants have rooted early and abundantly, and can now be supplied at any time. Potted Plants, only in small lots, upon two weeks notice. Grapes and other small fruits, in great variety after Oct. 1st. Price list only issued for spring of 1890. Prices on application.

T. T. LYON. South Haven, Mich., July, 1889.

Free Address GEO. E. HILTON, Fremont, Mich.

INFANTILE
Skin & Scalp
DISEASES
Cured by
CUTICURA
Remedies.

FOR GLASSING, PUPTURING AND BUBBLING
Irritate the skin of children and infants by
curing, torturing, disfiguring, itching and
pimply diseases of the skin, scalp and body
with loss of hair from infancy to old age,
CUTICURA REMEDIES are infallible.

CUTICURA, the great Skin Cure, and **CORTICURA**,
an exquisite Skin Beautifier, external and
CUTICURA RESOLVENT, the new blood pur-
ifier, internally, cure every form of skin and
blood diseases, from pimples to Scrofula.

Sold everywhere. Price, 25c. per box of 30
25c; RESOLVENT, 81. Prepared by the **PORTER**
MEDICINE AND CHEMICAL CORPORATION, Boston,
Mass.

Send for "How to Cure Skin Diseases."

✓ KIDNEY PAIN, Backache and Weakness
 cured by CUTICURA ANTI-PAINT PLASTER.
 Instantaneous pain subduing plaster.

HUMPHREYS'

VETERINARY SPECIFICS

For Horses, Cattle, Sheep, Dogs, Hogs
 and POULTRY.

500 Page Book on Treatment of Animals
 and **Chart Book**

Cures: Fevers, Congestions, Inflammations,
 Colic, Spinal Neuralgias, Milk Fever,
 B.B. - Tetanus, Lockjaw, Strangles,
 C.C. - Diptemper, Nasal Discharges,
 R. - Rhinorrhea or Gravel,
 E.E. - Coughs, Heaves, Pneumonia,
 S. - Sore Throat or Glanders,
 G.G. - Miscarriage, Hemorrhage,
 H.H. - Urinary and Kidney Diseases,
 I. - Irruptions of the Skin,
 J.K. - Diseases of Digestion.

Stable Cane, with Specifics, Manual,
 and Chart Book, **50 CENTS**.
 Price, Single Bottle (over 50 doses). . . **\$7.00**
 50 per cent. off 2 or 3 bottles.
 Sold by all Druggists, or sent by mail,
 and in any quantity, on Receipt of Price.
 Humphreys' Med. Co., 109 Fulton St., N. Y.

HUMPHREYS'

HOMOEOPATHIC

SPECIFIC NO. 2

In use 30 years. The only successful remedy for
Nervous Debility, Vital Weakness
 and Prostration, from over-work or other causes.
 50 per cent. off 2 or 3 bottles.
 Sold by Druggists, or sent postpaid on receipt of
 price.—Humphreys' Med. Co., 109 Fulton St., N. Y.

SHERIFF'S SALE—NOTICE IS HEREBY
 given by me, the undersigned, Sheriff of the County
 of Wayne, State of the Circuit Court for the County
 of Wayne, State of Michigan, in favor of Charles
 Lacombe and Cecelia Lacombe, and to the following
 goods, chattels and real estate of Stephen
 Lacombe, to wit: A certain lot of land situated in
 the County of Wayne, State of Michigan, to
 me directed and delivered, I did on the
 twenty sixth day of July, A. D. 1898, leave upon
 all rights, titles and interests in and to the
 Lacombe and Cecelia Lacombe, in and to the
 following described real estate situated in the
 County of Wayne, State of Michigan, to wit:
 Lot twenty seven (27) of the subdivision of or
 known as the "Hawthorn Farm," in the County

to the plat thereof recorded in Libor one (1) of Deeds for the County of Wayne, State of Michigan, in favor of the City of Detroit, City of Detroit, County of Wayne and State of Michigan, on Monday, the Fourth day of November, A.D. 1889, at 11 o'clock in the forenoon.

Dated Detroit, September 17th, 1889.

BY LOUIS B. LITTLEFIELD, Sheriff,
BY BENJAMIN F. BRISCOE, Deputy Sheriff.

PETER E. PARK, Plaintiff's Attorney.

SHERIFF'S SALE—NOTICE. WHEREAS, I HEREBY given that by virtue of a writ of fieri facias issued out of the Circuit Court for the County of Wayne, State of Michigan, in favor of the City of Detroit, City of Detroit, County of Wayne and State of Michigan, against the goods, chattels and real estate of Michael McGallin, I did on the fifteenth day of February, 1889, levy upon and take possession of the goods, chattels and real estate of Michael McGallin, as follows, to-wit: Lot five (5) and the north half of block four (4) in the western addition to the City of Detroit, of part of the Cass farm, according to the plat thereof recorded in Libor one (1) of Deeds for the City of Detroit, in book nine (9) of the records of the City of Detroit, according to the plan, as well of which I shall expose for sale at public auction or vendue to the highest bidder, within and about the City of Detroit, County of Wayne and State of Michigan, that being the place for holding the same, on Monday, the Fourth day of November, A.D. 1889, at 11 o'clock in the forenoon.

Dated Detroit, September 17th, 1889.

BY LOUIS B. LITTLEFIELD, Sheriff,
BY BENJAMIN F. BRISCOE, Deputy Sheriff.

COSLEY, MAYNARD & LITTLEFIELD,
Plaintiff's Attorneys.

SHERIFF'S SALE—NOTICE. IS HEREBY given that by virtue of a writ of fieri facias issued out of the Circuit Court for the County of Wayne, State of Michigan, in favor of the City of Detroit, City of Detroit, County of Wayne and State of Michigan, against the goods, chattels and real estate of Bridget McGoldrick, I did on the fifteenth day of February, 1889, levy upon and take possession of the goods, chattels and real estate of Bridget McGoldrick, as follows, to-wit: Lot five (5) and the north half of block four (4) in the western addition to the City of Detroit, of part of the Cass farm, according to the plat thereof recorded in Libor one (1) of Deeds for the City of Detroit, in book nine (9) of the records of the City of Detroit, according to the plan, as well of which I shall expose for sale at public auction or vendue to the highest bidder, within and about the City of Detroit, County of Wayne and State of Michigan, that being the place for holding the same, on Monday, the Fourth day of November, A.D. 1889, at 11 o'clock in the forenoon.

Dated Detroit, September 17th, 1889.

BY LOUIS B. LITTLEFIELD, Sheriff,
BY BENJAMIN F. BRISCOE, Deputy Sheriff.

COSLEY, MAYNARD & LITTLEFIELD,
Plaintiff's Attorneys.

Dated Detroit, September 17th, 1889.
 LOUIS B. LITTLEFIELD, Sheriff.
 By BENJAMIN F. BRISCOE, Deputy Sheriff
 MONTGOMERY & CHEEVER, Plaintiff's Attorneys.

STATE OF MICHIGAN. ss.
 At a session of the Probate Court for said County of Wayne, held at Detroit, Michigan, on the nineteenth day of September, in the year one thousand eight hundred and eighty-nine, Edgar O. Durfee, Judge of Probate, being present, and the following being sworn, to wit: Edgar O. Durfee, Judge of Probate, in the matter of the estate of Luella C. Wright, deceased, do hereby certify that the foregoing is a true and correct copy of the last will and testament of said deceased, as the same was read in open court, for the purpose of being recorded, to be ordered that Tuesday, the fifteenth day of October, next, be varied into a decree of the Probate Office, be appointed for proving said will, and that the said will be admitted to probate, and that this order be published three successive weeks prior to said day of October, next, in the FARMER, a newspaper printed and circulating said county of Wayne, Michigan.

(A true copy.)
 EDGAR O. DURFEE, Judge of Probate.
 HOMER A. FULTON, Register.

Detroit, Grand Haven & Milwaukee
 Depot foot of Brush Street. Trains run
 Central Standard time. In each direction daily.

Depart.	Arrive.
*Morning and Chicago Ex. 6:30 a.m.	*11:30 a.m.
*Through Mail & Chicago 10:30 a.m.	*12:30 p.m.
Steamboat Express 4:35 p.m.	*9:25 p.m.
*Chicago Ex. with sleeper 5:50 p.m.	*10:50 a.m.
*Chicago Ex. with sleeper 11:40 p.m.	*11:40 p.m.

* Daily, Sundays excepted. † Daily.
 Trains leaving Detroit at 6:50 a.m. 10:30 a.m. 11:40 p.m.
 Chicago & Grand Trunk Ex. for Chicago and the west.
 And has parlor car to Grand Haven.
 Chicago express has Pullman sleeper and Buffet car Detroit to Chicago.
 Chicago has sleeper to Grand Rapids.
 Sleeping car berths can be secured at G. T. & N. Ticket office, Corner Woodward and Jefferson Avenues, and at Depot foot of Brush Street.
 R. J. PIERCE, City P. & T. Agent.
 Detroit.

WASH. RAILROADS.—Passenger stages
 foot of Twelfth St. Try the Wash. Stage Line to Chicago and the West. Standard time.

Depart.	Arrive.
9:45 a.m.	* Wash. Western Flyer.
10:30 a.m.	* Chicago Limited.
11:30 a.m.	* St. Louis & Western Flyer.
1:30 p.m.	* Chicago & Butler Accommod.
4:00 p.m.	* Chicago Limited.
5:00 p.m.	* Wash. Western Flyer.
6:00 p.m.	* St. Louis and Western Flyer.
9:00 p.m.	* Chicago Limited.

* Daily. *Except Sunday. †Except Monday.

For full particulars call on the Philadelphia & Washington City Stage Line, or on W. AYER & SON, our authorized agents, 100 N. 2d St., Philadelphia, Pa.

The Dairy.

CONDUCTED BY T. D. CURTIS.

A Butter Ration.

Can the amount of fat in milk be increased or diminished by the ration? Science, as well as practice, says, "Yes," but all the other solids will be increased and diminished in the same ratio, at the same time. This is what is meant by the talk about the "proportion" of fat to other solids not being increased or diminished by the feed. The solids as a whole are very materially affected by it. A very interesting and instructive case is related by the Mark Lane Express as occurring at one of the English agricultural colleges.

One month after calving, a good Irish cow, up to that time receiving nothing but pasture grass, was fed 8½ pounds of crushed oats night and morning, for two weeks, and made eight pounds of butter per week. The next two weeks, 8½ pounds of de-oiled cotton-seed cake was given night and morning, with eight pounds of butter per week as the yield, but the butter was of finer texture and higher color.

Then followed two weeks of 1½ pounds each of the cotton-seed cake and crushed oats, making the ration three pounds, night and morning, when the butter yield was increased to 10 pounds per week. It will be noted that by combining the two there was a saving of one pound of feed daily and an increase of two pounds of butter per week. This shows the advantage of combining foods.

This improvement was followed by feeding night and morning equal parts of a preparation of palm-nut meal, crushed oats, de-oiled cotton-seed cake, and bran—wheat bran, we suppose. The cow received three pounds of this mixture each week, or six pounds a day. The result was an increase of the yield of butter to 14 pounds per week!

A return for two weeks to the crushed oats ration of 8½ pounds night and morning, reduced the yield of butter to six pounds per week!

Then a permanent return was made to the ration of palm-nut meal, cotton-seed meal, crushed oats, and bran, when the butter yield ran up to 12 to 13 pounds per week, where it remained "for a considerable time."

It is no wonder that this ration is recommended for butter, and intelligent English dairymen are adopting it. It would be well for American dairymen to try it. Remember that the night and morning ration is a mixture of ¼ of a pound each of palm-nut meal, de-oiled cotton-seed cake, crushed oats, and wheat bran, with plenty of pasture grass. Perhaps some substitute for the palm-nut meal may be found. Cannot some of our Agricultural Experiment Stations compound a ration of which corn-meal will constitute a part that will be equally efficient?

Bacteria in the Dairy.

What are bacteria, of which we read so much and about which the general reader knows so little, since it is a term so modern that none but the latest editions of the dictionaries contain it? It has hitherto been classed with purely scientific terms, but has now become of such general use that the popular mind must be made familiar with its meaning.

Bacteria is the plural of bacterium, which is sometimes made plural by adding an s. Bacterium is defined as "a minute and exceedingly low vegetable form or monad, liable to appear in any fluid or solid substance containing vitalized matter." It is a mere point of organized matter, spherical, and having a quite rapid motion. Hence it was at first thought to be a low animal organism. It is now classed as vegetable, and considered the lowest or first form of living organisms—among the minutest living beings that can be seen with the microscope. The germs are supposed to be derived from the air, in which they are held in suspension ready to drop or adhere anywhere that the conditions favor their development. Bacteria act as powerful ferments, and play an important part, both in healthy and morbid tissues, by elaborating elements for the nourishment of vegetable and animal cells, many of which are themselves developed into bacteria, and some of which may take the form of fungi, which are a very common and destructive low form of vegetable life, like the different moulds and mildews, potato and grape blights, etc. The germs of bacteria are most plentiful in the air where fermentation and decomposition are the most active. We cannot breathe the air, anywhere among the abodes of active life, without inhaling them, only healthy and vigorous animal or vegetable tissue can effectively resist their attacks and escape some form of disease. Either the kinds of bacteria are numerous or their effects are varied according to the developing conditions. In acting as ferments, they may be our friends; but in developing disease and furthering decomposition, they are enemies, to be vigilantly counteracted and guarded against.

How far are we as free from the germs of bacteria and other forms of microbes as they ought to be? We never saw one that we did not think could be improved in this respect. There is always more or less fermenting and decomposing matter around or near them, if not in them. The stables and barnyards, and other places where the milking is done, are usually pervaded with the exhalations from animal droppings and old hay and straw in a state of fermentation and decomposition. A little experience of Dr. Sturtevant's, some years since, at the New York Agricultural Experiment Station, illustrates how effective for evil a small amount of decaying matter may be. He found the milk of his Jersey cows, standing in the stable, was bad and full of bacteria. There was no change in the surroundings, and nothing unusual could be found but a small remnant of glucose meal, in a distant corner, from a lot which the Doctor had been experimenting with. This was removed, when the trouble at once ceased. Presumably the fermenting meal was the cause of it. The germs of bacteria rising from it filled the air in the barn, and they not only got into the milk in the pail, as it was

drawn, but were taken into the lungs of the cows, passed into the general circulation and contaminated the milk at the fountain head. Injury to milk is thus often done when the effects are not so pronounced, or where the milk is not so carefully inspected. The germs of bacteria in the milk, they are sure to do their work of destruction, if the conditions are favorable, or whenever they become so. Their work may not appear at once in the milk, but show itself in the butter or cheese made from it.

Milk-pails, cans, and other vessels, need not only to be washed clean and scalded with boiling water, but to be thoroughly dried and set with their tops turned downward, so that bacteria germs and fungi spores will not settle into them and cling to their bottoms and sides. It would be an advantage, but some extra work, to scald milk utensils in hot weather—especially muggy weather—the last thing before using them. But every possible thing, within the bounds of reason, that can be done to keep the atmosphere clean and sweet. A bad-smelling atmosphere is pretty sure to be loaded with all sorts of microscopic germs, ready to impart taints and develop the elements of decay. Fumigating stables with the fumes of burning sulphur, occasionally during the summer, and giving the walls and ceilings a good coat of whitewash, in the spring and early autumn, are excellent precautions. Many stable floors permit the liquid droppings to leak through and saturate the soil beneath, where they ferment and become prolific sources of bacteria and fungi germs. All such places should at once be disinfected and purified and carefully avoided in the future. Much trouble with milk and its products has its origin with the introduction of invisible foes known to the microscopists as bacteria, fungi, and a host of other microbes known only to scientists.

Veterinary Department.

Conducted by Prof. Robert Jennings, Veterinary Surgeon. Professional assistance through the columns of The Michigan Farmer to all regular subscribers who will send their names and addresses will be given. The fee for each case will be \$1.00. The fee for each case will be \$1.00. The fee for each case will be \$1.00.

Bursal Tumors, Known as Blood or Bog Spavin.

SOUTHFIELD, Sept. 30, 1889.

Veterinary Editor of the Michigan Farmer.

I have a large two-year-old colt that has a soft hunch on each hind leg, front side of gammy. Some say they are bog spavins. Can they be removed, and what treatment would you advise? Please answer through the FARMER, and oblige A. S. COOK.

Answer.—The trouble with your colt is a disease known to the profession as Bursa Mirore (mucus sacs about the joints), commonly called bog or blood spavin, caused by over secretion of Synovia (joint oil), always difficult to cure, even with the assistance of a competent veterinary surgeon. Treatment: Blistering sometimes, but rarely, is effective. We have more confidence in cold water compresses than all other remedies yet known, the animal requiring perfect rest with close attention of the attendant for six or eight weeks. Any neglect during that time will terminate in failure. Trusses are made by surgical instrument manufacturers for keeping the compresses in place at a cost of \$5 to \$10 each. Prof. Law says, and we endorse his opinion: "It may sometimes be benefited by a blister, or even by bandages wet with some strong astringent lotion; but as it is only a blemish, and does not interfere with the animal's usefulness, it is best, as a rule, to let it alone."

Splint in a Colt.

DELLWOOD, Oct. 2, 1889.

Veterinary Editor of the Michigan Farmer.

I am thankful for information given me September 5th about "Speedy" in a colt, but would state that the colt has never been shod, nor been driven; has always been in pasture. Is a speedy and splint the same thing? A neighbor called it a splint. I noticed the bunion on the 1st of August. J. S.

Answer.—Your neighbor's opinion is correct. Had you mentioned the fact that the animal had never been shod, we would not have been misled. A splint is a bony excrescence usually appearing upon the inside of the front leg, between the cannon and splint bones, often without any apparent cause, and rarely causing lameness. A speedy is caused by the shoe coming in contact with the lower inside portion of the knee joint when the animal is trotting at a high rate of speed, bruising the lower inside portion of the knee, which, if not speedily relieved, causes the growth of a bony tumor known as a speedy—the result of high knee action. The usual method of treating such cases is by firing and blistering. A splint not infrequently disappears without treatment, a speedy, when once developed, never.

No Diagnosis.

ANN ARBOR, Sept. 24, 1889.

Veterinary Editor of the Michigan Farmer.

Please tell me what to do for my mare? She bites her flank, legs and feet, and has rubbed the hair off her tail. I have a horse also which is troubled in the same way for a year past; have had doctors but no help from them. Please let me know in next Farmer, and oblige A. S. COOK.

Answer.—It is out of the question for you to give a satisfactory reply to the accompanying letter, but if you will be kind enough to write us answers to the following questions, we will try and help you out of your trouble: Is the animal kept in a stable, shed, pasture, or other place, where it has shelter? Examine each animal carefully for lice, dandruff, scabby skin; how and what do you feed, and any other information you can give us calculated to assist us in correctly diagnosing the character of the trouble? We will then advise you accordingly.

Sprung Knees in a Mare.

WILLIAMSTON, Mich., Sept. 30, 1889.

Veterinary Editor of the Michigan Farmer.

I have a Percheron mare that is knee sprung a little. The first that I saw of it was about nine months ago, while I was drawing heavy loads of wood. The roads

are quite level. Please tell me through the FARMER what is the cause of it, and what will cure it. Old Subscriber.

Answer.—The cause of sprung knees in the horse is from strain of the back sinews of the fore legs in hauling heavy loads. Many valuable animals are ruined in this way. In all such cases immediate attention is necessary to restore the injured tendons to their normal condition. Nine months intervening since the injury, it will require more time, close attention and care than if properly treated at the time of injury. Under the circumstances we would advise you to try Sparkhall's Specific, prepared expressly for such purposes. Price, \$3. On receipt of price we will send you the preparation if you cannot get it of your druggist.

Commercial.

DETROIT WHOLESALE MARKET.

DETROIT, October 4, 1889.

WHEAT.—No change to note except in 7½, which is 5c per bu. lower. Market steady. Quotations on car-load lots are as follows:

Michigan roller patents: 3.90 24.00
Michigan roller, old: 4.30 24.00
Minnesota, roller: 4.30 24.00
Minnesota, roller: 4.30 24.00
Minnesota, roller: 4.30 24.00
Minnesota, roller: 4.30 24.00

WHEAT.—Market lower than a week ago, on both spot and futures, but the decline is light and the tone strong at the close. Closing quotations today were as follows: No. 1 white, 81½c; No. 2 red, 81½c; No. 3 red, 74½c; rejected red, 69½c. Futures closed with No. 2 red for October at 81½c, November at 82½c, and December at 83½c per bu. No. 2 white spot sold at 73c, and No. 3 at 63c.

CORN.—Dull and lower. No. 2 held at 33½c, and No. 3 at 32c per bu. In futures No. 2 sold at 32c for December delivery.

OATS.—Quoted at 23½c per bu. for No. 2 white, 22c for No. 3 mixed, 19½c for No. 3.

BARLEY.—Held firm at \$1.20 per cental for No. 2, but the lower grades, of which there is a great surplus, sold down to 70c per cental. No. 3 is held at 90¢ per cental. Receipts for the week, 45,660 bu.; shipments, 1,500 bu.; stocks in store, 130,000 bu. A great deal of the receipts are more or less discolored.

CLOVER SEED.—Market dull and lower. Prime spot, \$3.75 per bu.; November delivery, \$3.65; December, \$4.

RYE.—Quoted at 44½c per bu.

BUTTER.—Firm and active. Dairy held at 17½c for choice, 16c for fancy, 14½c for fair to good, and 10½c for low grade stock. Creamery firm at 18½c to 19c, according to quality.

CHEESE.—Firm and higher. Michigan full cream held at \$1.10 to \$1.15.

EGGS.—The market is firm at 10¢ per doz. Receipts fair.

HONEY.—Quoted at 19½c for comb. Extracted, 19c; market quiet.

FOREIGN FRUITS.—Lemons, Messina, \$3.75; oranges, Messina, \$3.00 to \$3.50; bananas, yellow, bunch, \$1.00 to \$1.50; figs, 11c to 12c for layers, 10c for fancy; coconuts, per 100, \$4.25. Persian dates, 5½c to 6c per bu.

SALT.—Michigan, 80c per bu. in car lots, or 83c in 10-bbl. lots; dairy, \$1.00 to \$1.10 per bu.; Ashton quarter sacks, 72c.

HIDES.—Green city, 3½c to 4c, country, 4c; cured, No. 1, 4½c to 5c; No. 2, 2½c to 3c; No. 3, 1c to 2c; runners and No. 3, 2½c to 3c; sheepskins, 50¢ to 75¢ as to quantity of wool.

HAY.—Quoted at \$8.25 to \$10 per ton for baled in car lots.

BEANS.—Quoted at \$1.00 to \$1.25 per bu. for city packed mediums. New unpeeled sold at \$1.40 to \$1.60 per bu.

BREWERY.—Steady at 40¢ to 45¢ per bu. by the car-load, and from store at 45¢ to 50¢ per bu.

APPLES.—Fair stock held firmly at \$1.50 to \$2.00 per bu. Receipts light.

PEACHES.—Quoted at \$2.00 to \$2.50 per bu. for yellow and \$1.50 to \$2.00 for white. Receipts light.

GRAPES.—Calcutta white, quoted at 40¢ to 45¢ per bu. and Concord at 35¢ to 40¢.

POULTRY.—Live quoted as follows: Old roosters, 4c; fowls, 7c; spring chickens, 10c to 12c; ducks, 7c to 10c; geese, 10c to 12c; turkeys, 10c to 12c. Market steady.

ONIONS.—Firm at \$1.00 to \$1.25 per bu. Stocks large.

VEGETABLES.—Quoted as follows from second hands: Per dozen, onions, 14¢ to 16¢; corn, 10¢ to 12¢; peas, 9¢ to 10¢; cucumbers, 10¢ to 12¢; per 100, cabbage, 14¢ to 16¢; beans, 7¢ to 10¢; squash, per doz., 40¢ to 45¢; per dozen bunches, 20¢ to 25¢; carrots, 20¢ to 25¢; celery, per doz., 25¢ to 30¢; cauliflower, 30¢ to 40¢.

TOMATOES.—Fairly active at 60¢ to 65¢ per bu. Supply light.

PEARS.—Quoted at 30¢ to 35¢ per bu., the latter for fancy fruit.

PLUMS.—Quoted at 30¢ to 35¢ per bu., or 75c per peck. Receipts light.

PROVISIONS.—Barrelled pork has advanced. No other changes. Quotations are as follows:

Meat, new: 11 75 to 12 00
Family: 12 00 to 12 25
Short cut: 12 25 to 12 50
Lard in tierces: 6 00 to 6 25
Pure lard in tierces: 7 00 to 7 25
Hams, 9 00 to 9 25
Shoulders, 6 00 to 6 25
Choice bacon, 6 00 to 6 25
Extra meat beef, new per bu.: 6 75 to 7 25
Plate beef: 6 00 to 6 25
Dried beef: 6 00 to 6 25
Tallow, 9 00 to 9 25

HAY.—The following is a record of the sales at the Michigan Avenue sales for the week up to Friday noon, with price per ton:

Monday—12 loads: Four at \$13 and \$12; one at \$12.50; one at \$11.50; one at \$11.00.

Tuesday—12 loads: Twenty-two at \$13; thirteen at \$12; four at \$11.50; one at \$11.00; one at \$10.50; one at \$10.00.

Wednesday—42 loads: Eight at \$13 and \$12; six at \$11; five at \$10; three at \$11.50; two at \$11; one at \$10.50; one at \$10.00.

Thursday—16 loads: Eleven at \$12.50; nine at \$12; eight at \$11.50; three at \$11; one at \$10.50; one at \$10.00.

Friday—25 loads: Seven at \$13 and \$12.50; three at \$12; two at \$11.50; one at \$11; one at \$10.50; one at \$10.00.

LIVE STOCK MARKETS.

King's Yards.

CATTLE.

The market opened up at these yards with 1,292 head of cattle on sale. The receipts averaged as poor as any of the season, and there was no good cattle among them. There was a fair demand for the receipts, and the common butchering grades as well as stockers, of which there was a large supply sold 10 to 15 cents lower than they did one week ago. The following were the closing

quotations:

Fancy steers wt. 1,200 to 1,500 lbs. nominal.
Extra graded steers, weighing 1,300 to 1,600 lbs. 3 00 to 4 00
Choice steers, fine fat and well formed, 1,200 to 1,500 lbs. 3 00 to 4 00
Good steers, well fat, weighing 1,000 to 1,200 lbs. 2 50 to 3 50
Good mixed butchers' stock—fat cows, heifers and light steers—700 to 900 lbs. 2 00 to 3 00
Cows, heifers and light steers—thin cows, heifers, stock and bulls 1 00 to 3 00

Stockers: 2 00 to 3 00
Bulls: 1 00 to 2 00
Glenn sold Murphy a mixed lot of 11 head of coarse butchers' stock at \$2.00 to \$2.50.

Brant sold Brooks a stocker at \$1.75 and 5 bulls to Reagan at \$1.50 to \$1.75.

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